



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB2000-0300-RI-FEC

May 14, 2001

Mr. Lawrence C. Evans
Portland District, Corps of Engineers
CENWP-OP-GP (Gebhart)
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act
Essential Fish Habitat Consultation, Kirby-Blaire Bridge Protection and Bank
Stabilization Project, near Lincoln City, Lincoln County, Oregon (Corps No. 2000-00550)

Dear Mr. Evans:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) for the Kirby-Blaire Bridge Protection and Bank Stabilization Project on Schooner Creek, near Lincoln City, Lincoln County, Oregon. NMFS concludes in this Opinion that the proposed action is not likely to jeopardize Oregon Coast coho salmon (*Oncorhynchus kisutch*) or destroy or adversely modify critical habitat. Pursuant to section 7 of the ESA, NMFS has included reasonable and prudent measures with non-discretionary terms and conditions that NMFS believes are necessary and appropriate to minimize the potential for incidental take associated with this project. This Opinion also serves as consultation on Essential Fish Habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and its implementing regulations (50 CFR Part 600).

Questions regarding this letter should be directed to Rob Markle of my staff in the Oregon State Branch Office at (503) 230-5419.

Sincerely,

Michael R. Crouse

Donna Darm
Acting Regional Administrator

cc: Terrance Kerby-Blaire (applicant)
Tami Wagner (ODFW)
Steve Moser (DSL)
Lance Gatchell (Lincoln Co. Soil & Water)

Endangered Species Act Section 7 Consultation
BIOLOGICAL OPINION
&
Magnuson-Stevens Act
Essential Fish Habitat Consultation

Kirby-Blaire Bridge Protection and Bank Stabilization Project,
Lincoln County, Oregon
(Corps No. 2000-00550)

Agency: U.S. Army Corps of Engineers, Portland District

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: May 14, 2001

Refer to: OSB2000-0300-RI-FEC

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1. ENDANGERED SPECIES ACT

1.1 Background

On September 13, 2000, the National Marine Fisheries Service (NMFS) received a letter from the U.S. Corps of Engineers (the Corps) requesting concurrence with its determination that the issuance of a permit under section 404 of the Clean Water Act for the placement of 100 cubic yards (cy) of rock along 120 feet of Schooner Creek, is not likely to adversely affect listed anadromous fish and designated critical habitat in the project area. Following repeated negotiations attempting to reduce impacts, NMFS issued a nonconcurrence letter on January 18, 2001 (OSB2000-0300). The Corps reinitiated consultation in a letter received on April 5, 2001, requesting formal consultation. The applicant is Mr. Terrance Kirby-Blaire. The action will be completed by an unidentified contractor.

NMFS participated in a site visit with the applicant, Tami Wagner (Oregon Department of Fish and Wildlife), and Lance Gatchell (Lincoln Soil & Water Conservation District) on October 12, 2000. Agency personnel unanimously believed the bridge abutment was not in imminent threat of loss due to bank erosion and recommended an alternative to full-bank hardening be considered. Mr. Kirby-Blaire indicated he would consider an alternative to full bank hardening, but ultimately decided he was unwilling to assume the higher level of risk associated with alternate means of bank protection, including deformable bank alternatives.

This biological opinion (Opinion) considers the potential effects of the proposed action on Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch*), which occur in the proposed project area. OC coho salmon were listed as threatened under the Endangered Species Act (ESA) on August 10, 1998 (63 FR 42587), critical habitat was designated on February 16, 2000 (65 FR 7764) and protective regulations were issued on July 10, 2000 (65 FR 42422). The objective of this Opinion is to determine whether the proposed action is likely to jeopardize the continued existence of OC coho salmon, or destroy or adversely modify designated critical habitat for this species. This consultation is conducted pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR 402.

1.2 Proposed Action

The applicant proposes to harden a 95-foot section of Schooner Creek at approximately river-mile 3.8. The purpose of the action is to protect a bridge abutment that provides sole access to the applicant's primary residence and outbuildings. The bridge abutment is located at the downstream most extent of the proposed action and an outbuilding structure is located approximately 25 feet from the top of bank. The residence is downstream of the bridge. The subject bank has only been topped once during the applicant's occupancy of the residence. During this Thanksgiving 1999 event the residence was not flooded, but the bridge and the east abutment were lost. Both were repaired prior to an October 2000 site visit. The west bank is considerably lower and provides excellent flood relief during high water events.

The applicant proposes to place 100 cubic yards (cy) of fill material along a 95-foot section of bank. A toe trench will be excavated in the wetted channel to key in the rock. Approximately 160 cy of material will be excavated and disposed of offsite in an undisclosed location. Clean class-300 rock will be placed at a 1.5:1 (horizontal:vertical) slope (34°) and extend a slope distance of 4 to 8 feet to the top of bank. All work is proposed to occur during the summer of 2001.

No trees will be removed, though four woody shrubs and some lawn will be removed. A minimum of ten native trees will be planted (a mix of alder, cedar, willow, or spruce) with 23 native shrubs (willow, dogwood, *Douglas spirea* or Hawthorne). Other exposed areas will be planted with native grasses to prevent erosion. Woody vegetation will be planted in groups, rather than evenly spaced.

1.3 Biological Information and Critical Habitat

Although there are currently limited data to assess population numbers or trends, NMFS believes that all coho salmon stocks comprising the OC coho salmon Evolutionarily Significant Unit (ESU) are depressed relative to past abundance. The status and relevant biological information concerning OC coho salmon are well described in the proposed and final rules from the Federal Register (July 25, 1995, 60 FR 38011; and May 6, 1997, 62 FR 24588, respectively), and Weitkamp *et al.* (1995).

Abundance of wild coho salmon spawners in Oregon coastal streams declined during the period from about 1965 to roughly 1975 and has fluctuated at a low level since that time (Nickelson *et al.* 1992). Spawning escapements for the OC coho salmon ESU may be at less than 5 percent of abundance from that in the early 1900s. Contemporary production of coho salmon may be less than 10 percent of the historic production (Nickelson *et al.* 1992). Average spawner abundance has been relatively constant since the late 1970s, but preharvest abundance has declined. Average recruits-per-spawner may also be declining. The OC coho salmon ESU, although not at immediate danger of extinction, may become endangered in the future if present trends continue (Weitkamp *et al.* 1995). Coho salmon returns in fall 2000 were hampered by low flows in many coastal basin systems, which limited access to upstream spawning grounds.

Timing of adult coho salmon river entry is largely influenced by river flow. Coho salmon normally wait for freshets before entering rivers. In the Schooner Creek watershed, adults return in October/November (T. Wagner, ODFW, personal communication via telephone with R. Markle, 20 September 2000). Peak river entry can be assumed to be similar to that in the Siletz River, which occurs in October (Weitkamp *et al.* 1995). Weitkamp *et al.* (1995) also indicate that Siletz River coho spawning occurs from early November to early January with peak spawning taking place in late November. Juvenile coho salmon rear for one year in fresh water before migrating to the ocean. Juvenile OC coho salmon migrate out of Schooner Creek as smolts between March and July (T. Wagner, ODFW, personal communication via telephone with

R. Markle, 20 September 2000). Critical habitat for OC coho salmon includes Oregon coastal river basins (freshwater and estuarine areas) between Cape Blanco and the Columbia River.

Freshwater critical habitat includes all waterways, substrates, and adjacent riparian areas—areas adjacent to a stream that provides the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter—below longstanding, natural impassable barriers (i.e., natural waterfalls in existence for at least several hundred years) and several dams that block access to former coho salmon habitat. The proposed action would occur in designated critical habitat for OC coho salmon.

1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). In conducting analyses of habitat-altering actions under section 7 of the ESA, NMFS uses the following steps: (1) Consider the status and biological requirements of the species; (2) evaluate the relevance of the environmental baseline in the action area to the species' current status; (3) determine the effects of the proposed or continuing action on the species; (4) consider cumulative effects; and (5) determine whether the proposed action, in light of the above factors, is likely to appreciably reduce the likelihood of species survival in the wild or adversely modify its critical habitat. In completing this step of the analysis, NMFS determines whether the action under consultation, together with all cumulative effects when added to the environmental baseline, is likely to jeopardize the continued existence of the listed species or result in destruction, adversely modify their critical habitat, or both. If NMFS finds that the action is likely to jeopardize the listed species, NMFS must identify reasonable and prudent alternatives for the action.

1.4.1 Biological Requirements

The first step in the methods NMFS uses for applying the ESA to listed salmon is to define the biological requirements of the species most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list OC coho salmon for ESA protection and also considers new data available that are relevant to the determination (Weitkamp *et al.* 1995).

The relevant biological requirements are those necessary for OC coho salmon to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful spawning, rearing and migration. The current status of the OC

coho salmon, based upon their risk of extinction, has not significantly improved since the species was listed and, in some cases, their status may have worsened.

1.4.2 Environmental Baseline

The environmental baseline is an analysis of the effects of past and on-going human and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). Direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. The action area is defined as that bankline, adjacent riparian zone, and aquatic area affected by the proposed action. For this consultation, the *action area* is Schooner Creek from 95 feet upstream of the applicant's bridge downstream approximately 1.0 mile.

The Schooner Creek watershed is approximately 15 square miles (USFS/BLM 1996) with headwaters on Cougar Mountain in the Siuslaw National Forest. Winters are typified as mild and wet, while summers are cool and relatively dry. Oregon Water Resources Department data for Schooner Creek flows (October 1972 to April 1986; n=4,960), as measured at longitude 123° 57' 10"W and latitude 44° 57' 18"N, found a minimum flow of 7.9 cubic feet per second (10/10/80 and 10/23/80) and a peak flow of 1,390 cubic feet per second (01/07/83) (OWRD web site: <http://www.wrd.state.or.us/cgi-bin/choose_gage.pl?huc=17100204>). It is assumed that the November 1999 flood event exceeded the peak recorded in 1983.

The Drift Creek watershed, including Schooner Creek) has some of the highest road densities in the Siuslaw National Forest, therefore peak flows can be presumed to have increased over time (USFS/BLM 1996). If peak flows have increased, it may be expected that bank erosion has also increased (USFS/BLM 1996). Deposition occurs in low gradient (<4%), moderately confined or unconfined reaches. The USFS watershed analysis (USFS/BLM 1996) states:

If these [depositional] reaches are functioning properly, they tend to interact often with the floodplain during high water events. This dissipation of the flow limits its depth and basal shear stress... This, in turn, reduces the effect of peak flows during storms on changes in channel morphology. These reaches experience significant changes in stream morphology as sediment and woody supplies increase from upslope or upstream. The most sensitive areas are locations where transport reaches empty directly into response [depositional] reaches because of the rapid decrease in the streams' ability to transport sediment. During floods, these stream segments can shift laterally and create side channels. Gravels accumulated in these reaches can provide excellent spawning habitat for salmonids. Floodplains in these reaches also provided refuge areas for juvenile fish during flood events.

The substrate composition of Schooner Creek appears to have exhibited an increase in sand and decrease in gravel between 1950's and 1990's, however these data are insufficient to allow a land use correlation to be established (USFS/BLM 1996). In 1996 and 1999, the watershed experienced major landslides on forested slopes (John Eckhardt, USFS, personal communication via telephone with R. Markle, 16 January 2001). Logged slopes did not reportedly fail.

Habitat indicators suggest the Lower Schooner Creek subwatershed is not functioning properly. The USFS/BLM watershed analysis rated large woody debris, pool quality, and off-channel habitat parameters as *Not Properly Functioning* (USFS/BLM 1996). The March 29, 2001, BA indicates that the Corps has issued permits for only two other bank hardening projects in the Schooner Creek watershed; Highway 101 bridge crossing and at the Lincoln City water treatment plant. Other non-permitted bank hardening undoubtedly has also taken place.

The bulk of production for the OC coho salmon ESU is skewed to its southern portion where the coastal lake systems (e.g. Tenmile, Tahkenitch, and Siltcoos Basins) and the Coos and Coquille Rivers are more productive. The proposed action area is located in the northern half of the ESU where production is more depressed and habitat in the action area is underseeded. Schooner Creek supports coho salmon, winter steelhead (*O. mykiss*), fall chinook salmon (*O. tshawytscha*), and possibly sea-run cutthroat (*O. clarki*). The relatively flat gradient of the Schooner Creek lowlands indicates that the creek provided historic chum salmon (*O. keta*) habitat. Stray spring chinook salmon from the Siletz River may also enter Schooner Creek.

Estimated historic run sizes in Schooner Creek were 1,505 naturally spawning coho salmon (1923 to 1940). For the period 1987 to 1999 with available estimates (n=11), South Fork Schooner Creek escapement has averaged 24 coho salmon. In 1999, the total was 24 plus 6 clipped hatchery coho salmon (USFS provided data). Estimates for the year 2000/2001 return were 8 coho salmon and no hatchery strays (John Eckhardt, USFS, personal communication via telephone with R. Markle, 16 January 2001).

Schooner Creek is one of the few remaining relatively intact watersheds within the area of the Siletz River. The creek was included in an area designated for Tier 1 Key Watershed status (FEMAT 1993). Tier 1 Key Watersheds are "crucial for maintaining and recovering habitat for at-risk stocks of anadromous salmonids (USFS/BLM 1994).

1.5 Analysis of Effects

1.5.1 Effects of Proposed Actions

Rivers and streams are dynamic systems that perpetually alter their courses in response to multiple physical parameters. Roads, residences and other structures constructed along waterways are subject to flooding and undercutting as a result of these natural changes in stream course. Structural embankment hardening has been a typical means of protection for structures located along waterways. Impacts to waterways from revetment installation are simplification of

stream channels, alteration of hydraulic processes, and prevention of natural channel adjustments (Spence *et al.* 1996). Moreover, embankment hardening may shift the erosion point either upstream or downstream of the subject site and contribute to stream velocity acceleration. As erosive forces impact different locations and bank hardening occurs in response, the river eventually attains a continuous fixed alignment lacking habitat complexity (COE 1977).

Fish habitat is enhanced by the diversity of habitat at the land-water interface and adjacent bank (COE 1977). Streamside vegetation provides shade that assists in maintaining cool water temperatures. Overhanging branches provide cover from predators (Spence *et al.* 1996). Organisms that fall from overhanging branches may provide prey for fish. Immersed vegetation, logs, and root wads provide points of attachment for aquatic prey organisms, shelter from swift currents during high flow events, and retain bed load materials.

The most desirable method of bank protection is revegetation. However, revegetation alone can seldom stabilize banks steeper than 3:1 (vertical:horizontal) or areas of high velocity (COE 1977). Although biologically less desirable, fixed structures provide the most reliable means of bank stability. The use of structural measures should be a last resort. Combining structural measures (i.e. sloped riprap or mechanically stabilized earth walls) and vegetation is preferable to an unvegetated structural solution. The least preferable alternative is a vertical bulkhead (COE 1977).

The proposed action is replacement of 95 feet of stream bank with an un-vegetated rock slope. All work is proposed to occur from the top of bank. Toe trench excavation and rock placed at the toe will occur in the wet. Sediment will become suspended during toe trench excavation and transported downstream. Furthermore, fill materials placed at the base of the existing bank and soils exposed while pulling back the bank could be carried into the creek during a rain event. An increase in turbidity could impact fish and filter-feeding macro-invertebrates upstream and downstream of the work site. At moderate levels, turbidity has the potential to adversely affect primary and secondary productivity; at higher levels, turbidity may interfere with feeding and may injure and even kill both juvenile and adult fish (Spence *et al.* 1996, Berg and Northcote 1985).

To minimize the potential for stream turbidity and direct impacts to fish, work would occur during the summer of 2001 (July 1 to September 15). During this period, creek flows are typically low, fish presence is reduced, and rainfall is minimal. Low flows would allow a majority of the work to occur in the dry, thereby reducing indirect (turbidity) and direct impacts to fish. Fish presence is minimal with rearing juveniles potentially present, but no adult spawning or egg incubation occurring. The low probability of rainfall reduces the likelihood that sediment would be transported into the river. Based on data provided by the Western Regional Climate Center (2001) for Otis, Oregon, average rainfall during the work period represents 5.7 percent of the annual with less than a 10 percent probability of receiving 0.5 inches of rainfall on any given day. The precipitation probability increases greatly after mid-September, as does the

potential presence of returning adult coho salmon. Otis is located approximately 6 miles northeast of the project site.

As with all construction activities, there is potential for accidental release of fuel, oil, and other contaminants to the waterway. To minimize this potential, no equipment would enter below the break in bank or the ordinary high water elevation. All equipment would work from above the bankline. Best Management Practices (BMPs) required by the Corps and/or the State of Oregon would further minimize the potential for accidental release of hazardous materials.

1.5.2 Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features of designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. The proposed action area would occur within designated critical habitat for OC coho salmon.

The presence of the Kirby-Blair bridge and other bank development in the area affects critical habitat in the long-term by restricting natural channel forming processes, altering stream hydrology, reducing riparian vegetation, increasing stream temperature, and reducing allochthonous input. In addition, Peters *et al.* (1998) found that densities of juvenile coho salmon were generally reduced at riprapped sites when compared to areas containing large woody debris or undercut banks. The proposed top of bank plantings are expected to provide allochthonous input in the long-term. Furthermore, the plantings will ultimately, if allowed to reach maturity, supply important channel shading once the existing trees on site are lost.

Short-term impacts resulting from the proposed action could occur from turbidity and debris contribution to the waterway during construction activities and storm events during construction. These effects would be largely ameliorated by project timing (i.e., dry season) as described above in *Effects of Proposed Action*.

The proposed action will establish a hardened bank and function to limit lateral channel movement. The replacement of an existing undercut bank with a rock embankment will result in a reduction of functional habitat.

1.5.3 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes. Therefore, these actions are not considered cumulative to the proposed action.

NMFS is not aware of any specific future non-Federal activities within the action area that would cause greater impacts to listed species than presently occurs. NMFS assumes that future private and state actions will continue at similar intensities as in recent years.

1.6 Conclusion

After reviewing the current status of OC coho salmon, the environmental baseline for the action area, the effects of the proposed revetment construction action and the cumulative effects, NMFS has determined that the Kirby-Blaire Bridge Protection and Bank Stabilization Project, as proposed, is not likely to jeopardize the continued existence of the OC coho salmon, and is not likely to destroy or adversely modify designated critical habitat for the ESU. This finding is based, in part, on incorporation of best management practices (BMPs) into the proposed project design.

1.7 Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitats, or to develop additional information. The NMFS believes the following conservation recommendations are consistent with these obligations, and therefore should be carried out by the Corps:

1. The Corps should develop guidelines to minimize the use of rip rap in erosion control activities, including any reconstruction, repairs or improvements to sites already hardened. The guidelines should be built on consideration of the following factors:
 - a. The mechanisms of bank failure based on the geometry of the bank and channel at the project site (e.g., toe and bank surface erosion, local scour, avulsion, mass wasting);
 - b. the cause of bank failure (e.g., natural channel evolution, increased flows, loss of bank vegetation, floodplain activities);
 - c. existing riparian and aquatic habitat conditions that must be protected or mitigated by the project to protect the site's productive capacity and opportunities for restoration in the future; and
 - d. the risk of bank erosion to safety, property and habitat, including the economic cost to the extent known.

Further, the guidelines should ensure that each project that must use rock and riprap will be built using Class 350 metric or larger rock (unless that would constrict the channel migration zone) and include complex wood placement and revegetation of the natural bank line.

2. The Corps should develop educational materials to ensure that future applicants for permits to conduct erosion control activities are aware of and, to the maximum extent possible, apply the Corps's guidelines to minimize the use of riprap.

The NMFS believes these guidelines and their use will help to reduce the adverse effects of erosion control projects on designated critical habitats.

In order for the NMFS to be kept informed of actions minimizing or avoiding adverse effects, or those that benefit listed salmon and their habitats, NMFS requests notification of any actions leading to the achievement of these conservation recommendations.

1.8 Reinitiation of Consultation

This concludes formal consultation on these actions in accordance with 50 CFR 402.14(b)(1). Reinitiation of consultation is required: (1) If the amount or extent of incidental take is exceeded; (2) the action is modified in a way that causes an effect on the listed species that was not previously considered in the biological assessment and this Opinion; (3) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (4) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

2. INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered species and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Harm is further defined by NMFS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering. Harass is defined by NMFS as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the term and conditions of this Incidental Take Statement.

2.1 Amount or Extent of Take

NMFS anticipates that the proposed action covered by this Opinion has more than a negligible likelihood of incidental take of juvenile OC coho salmon resulting from the long-term removal of potential natural rearing habitat due to the use of riprap. Effects of actions such as these are largely unquantifiable in the short term. The effects of these activities on population levels are also largely unquantifiable and not expected to be measurable in the long term.

Therefore, even though NMFS expects some low level of non-lethal incidental take to occur due to the action covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as this, NMFS designates the expected level of take in terms of the extent of take allowed. Therefore, NMFS limits the area of allowable incidental take during construction to the distance from the action site downstream for a distance of 1.0 mile. Incidental take occurring beyond these areas is not authorized by this consultation.

2.2 Reasonable and Prudent Measures

NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species.

1. Minimize the likelihood of incidental take from construction activities in or near watercourses by implementing pollution and erosion control measures.
2. Minimize the likelihood of incidental take associated with impacts to riparian and in-stream habitats by avoiding or replacing lost riparian and in-stream functions.
3. Minimize the likelihood of incidental take associated with in-stream work by restricting work to recommended in-water work periods.
4. Monitor the effectiveness of the proposed conservation measures in minimizing incidental take and report to NMFS.

2.3 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To Implement Reasonable and Prudent Measure #1, above, the Corps shall ensure that:
 - a. The Contractor shall develop an adequate, site-specific Erosion and Sediment Control (ESCP) and Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The PCP shall include the following:
 - i. A site plan and narrative describing the methods of erosion/sediment control to be used to prevent erosion and sediment for contractor's operations related to disposal sites, borrow pits operations, haul roads, equipment storage sites, fueling operations and staging areas.
 - ii. Identify hazardous products or materials to be used. Include how they will be handled, monitored, inventoried, and stored.
 - iii. Provide a spill containment and control plan that includes: Notification procedures; specific clean up and disposal instructions for different products; quick response containment and clean up measures which will be available on site; proposed methods for disposal of spilled materials; and employee training for spill containment.
 - b. Temporary erosion and sediment controls shall be used on all exposed slopes during any hiatus in work exceeding seven days.
 - c. Permanently stabilize exposed soil surfaces at finished grade immediately upon completion of disturbance. Permanent stabilization shall include grass seeding and mulching. Jute matting may also be necessary depending on site conditions.
 - d. Material removed during excavation shall only be placed in locations where it cannot enter sensitive aquatic resources. Conservation of topsoil (removal, storage and reuse) shall be employed.
 - e. All equipment shall work from above the bankline and shall not enter below the break in bank or mean high-high water elevation.
 - f. No pollutants of any kind (e.g., petroleum products, wet concrete) shall come in contact with the area below the mean high-high water elevation.
 - g. All equipment shall be fueled and cleaned off-site in an appropriate upland area more than 150 feet from any waterway.
 - h. No *surface* application of fertilizer shall be used within 50 feet of any aquatic resource as part of this permitted action.
 - i. No herbicide or pesticide use shall occur as part of this permitted action.

2. To implement Reasonable and Prudent Measure #2, above, the Corps shall ensure that:
 - a. Disturbed soils shall be seeded (see item “b” in section above).
 - b. Native woody vegetation including trees and shrubs shall be planted at the top of bank. Plant vegetation from the top of the streambank to a point approximately 10 feet inland along the entire length of the disturbed bank.
 - c. Plantings along the top of bank shall achieve an 80 percent survival (by number) after 3 years.
 - d. All plantings shall occur prior to April 15, 2002.
3. To implement Reasonable and Prudent Measure #3, above, the Corps shall ensure that:
 - a. The applicant shall contact ODFW prior to commencing any work on-site, so that a meeting between ODFW and the contractor/engineer to discuss project plans and scheduling may be arranged at ODFW’s discretion.
 - b. All work shall be completed during the period of July 1 to September 15. No work shall take place outside this period without prior written authorization from the Corps (in consultation with ODFW and NMFS).
 - c. Alteration or disturbance of the stream banks and existing riparian vegetation shall be minimized.
 - d. Rock shall be individually placed in such a manner as to produce an *irregularly* contoured face to provide velocity disruption. No end dumping shall be allowed.
 - e. Rock placement shall minimize bank encroachment on the existing channel to the greatest extent possible.
4. To Implement Reasonable and Prudent Measure #4, above, the Corps shall ensure that:
 - a. Post-construction monitoring reports are provided to NMFS describing the success of conservation measures, confirmation of as-builts, and documentation of planting success. These reports will be submitted as outlined below.
 - b. *Construction Report.* The report on the conservation measures and as-built component of monitoring will be provided by December 31, 2001, and include a description of:

- i. Specific methods actually used to minimize turbidity;
 - ii. stream conditions prior to and following any wet excavation;
 - iii. extent of turbidity plume, in terms of distance downstream from project site and including the span of time after in-water activity before plume no longer evident;
 - iv. any observed injury and/or mortality of fish resulting from project activities; and
 - v. verify the finished grade and elevations were constructed as designed, including use of irregular contours. The finished embankment toe placement shall be confirmed by tying it back to a pre-existing, stable, and measurable landmark.
- c. *Planting Report.* Following the completion of plantings, annually provide NMFS with a report by December 31 describing the success of plantings required under Reasonable and Prudent Measure #2. The report should focus on actions taken to ensure that plantings were done correctly and success at meeting the objective of 80 percent or higher survival rate after three years, as well as indicate any replantings completed during the preceding 12-month period. The report shall include photo documentation. Once 80 percent or greater survival has been documented for three consecutive years, this reporting requirement may be discontinued.
- d. Monitoring reports shall be submitted to:

National Marine Fisheries Service
Oregon State Branch, Habitat Conservation Division
Attn: OSB2000-0300
525 NE Oregon Street, Suite 500
Portland, Oregon 97232-2778
- e. If a dead, sick or injured Oregon Coast coho salmon is located, immediate notification must be made to NMFS (R. Markle, 503-230-5419; or S. Springer, 360-418-4246), or ODFW (Tami Wagner, 541-867-0300 ext 255). Care will be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured species or preservation of biological material from a dead animal, the finder has the responsibility to carry out instruction provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

- f. Post-construction access by NMFS and ODFW shall be provided with prior notification to further assess impacts of this activity on fishery resources for a period of 5 years from completion of the action.

3. ESSENTIAL FISH HABITAT CONSULTATION

Public Law 104-267, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to establish new requirements for *Essential Fish Habitat* (EFH) descriptions in Federal fishery management plans and to require Federal agencies to consult with NMFS on activities that may adversely affect EFH. EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (Magnuson-Stevens Act section 3). This definition includes those waters and substrate necessary to ensure the production needed to support a long-term sustainable fishery (*i.e.*, properly functioning habitat conditions necessary for the long-term survival of the species through the full range of environmental variation).

Section 305(b) of the Magnuson-Stevens Act (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NMFS shall provide conservation recommendations for any Federal or State activity that may adversely affect EFH;
- Federal agencies shall, within 30 days after receiving conservation recommendations from NMFS, provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

The Magnuson-Stevens Act does not distinguish between actions in EFH and actions outside of EFH, such as upstream and upslope activities that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting, or funding an activity that may adversely affect EFH, regardless of its location.

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*)(PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to

the Pacific Coast Salmon Plan (PFMC 1999). Assessment of the impacts to these species' EFH from the proposed action is based on this information.

3.1 Effects of Proposed Action

The proposed action is described above in *Section 2 (Proposed Action)* of this document, and in more detail in the biological assessment provided by the Corps. The action area commences 95 feet upstream of the Kirby-Blair access bridge and extends downstream approximately 0.5 miles. This area has been designated as EFH for various life stages of chinook salmon and coho salmon. The proposed action may adversely impact the EFH of these species by:

1. Replacing an existing cutbank with full-bank riprap.
2. Impairing natural channel change, simplifying habitat structure, contributing to channelization of the stream and reducing the habitat potential of the reach.

3.2 EFH Conservation Recommendations

Pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. In addition to conservation measures proposed for the project by the Corps, all Conservation Recommendations outlined above in Section 1.7 and all of the Reasonable and Prudent Measures and the Terms and Conditions contained in Sections 2.2 and 2.3 are applicable to salmon EFH. Therefore, NMFS incorporates each of those measures here as EFH recommendations.

3.3 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the Federal agency to provide a detailed written response to NMFS after receiving an EFH recommendation. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the impact of the activity on EFH. If the response is inconsistent with a conservation recommendation from NMFS, the agency must explain its reasons for not following the recommendation.

3.4 Consultation Renewal

The Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR Part 600.920).

4. LITERATURE CITED

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